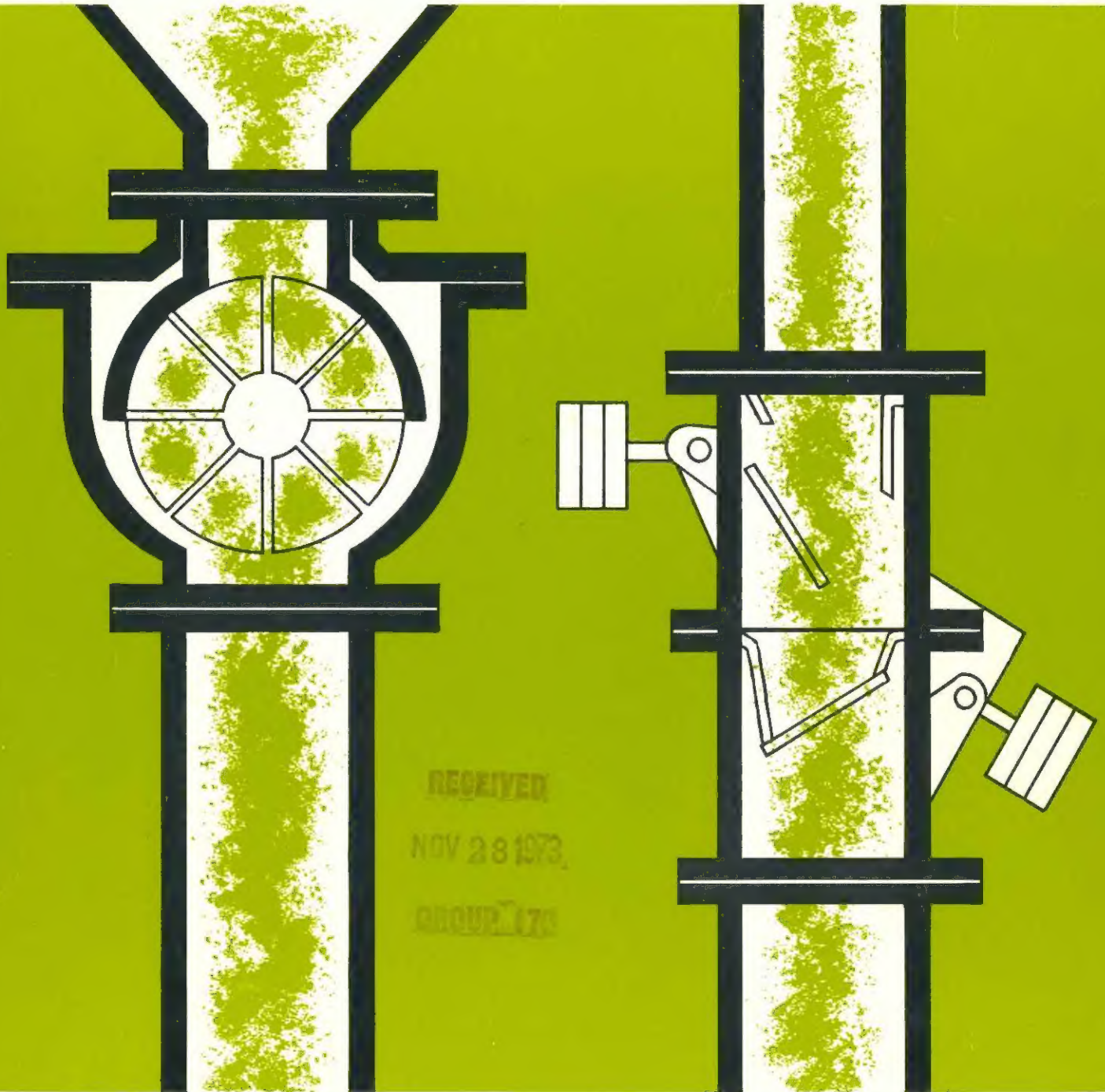


55-432

CATALOG V 205

AIR LOCKS AND DUST VALVES



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NOV 28 1973
GROUP 170

9011-28-73



WESTERN PRECIPITATION DIVISION
JOY MANUFACTURING COMPANY

MOTOR-OPERATED TIPPING DUST VALVES

THE TYPE R-1 MOTORIZED TIPPING VALVE has the following features not available in Gravity-Operated Tipping Valves — positive time cycle motorized operation — gravity free-flow flushing features — gravity return assuring positive valve seating without pressure closure that guarantees non-jamming.

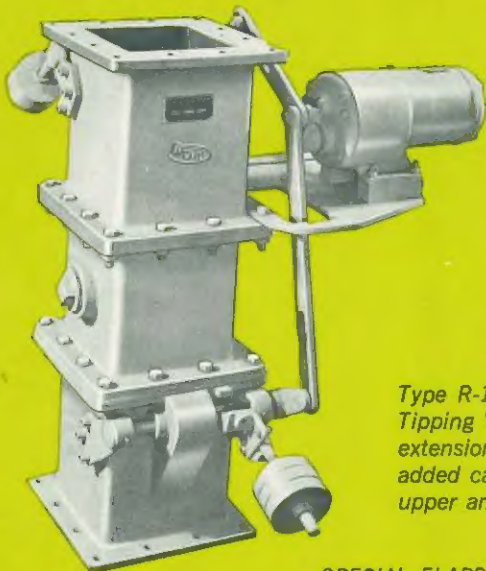
The addition of the positive motor drive extends the service range of the R-1 valve to:

- Positive pressure installations up to 5" vertical water column.
- Negative pressure installations up to 40" vertical water column.
- Installations where the dust is too light to operate the Gravity-Operated Tipping Valve.

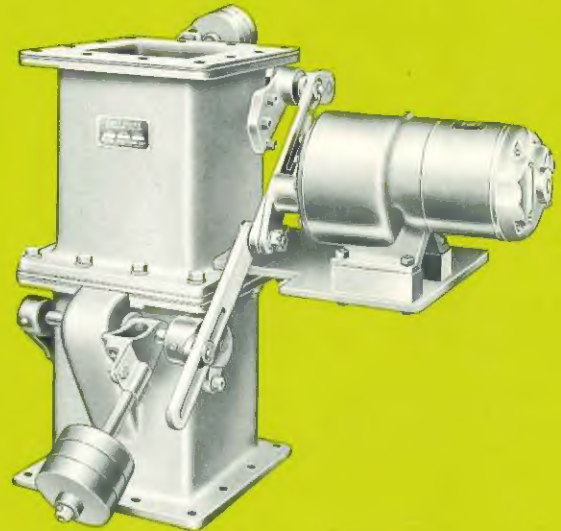
Special designed valves are available for positive pressure installations up to 30" vertical water column.

Although optimum service conditions are realized when the material handled is dry and free-flowing, the Type R-1 Dust Valve will also perform better than other types of valves where difficult operating conditions are encountered.

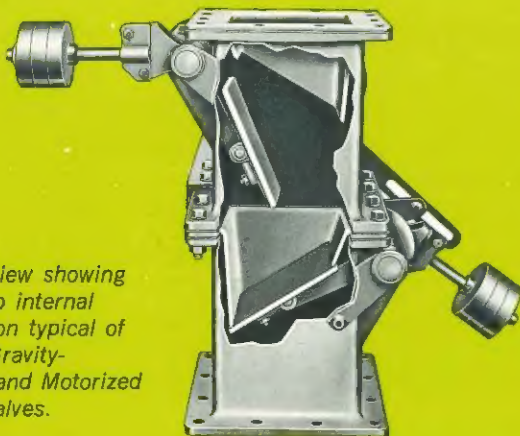
BODY-EXTENSION: On applications where it is desired to increase the volumetric capacity between the upper and lower motor-driven "flaps," a body extension can be supplied as illustrated at left.



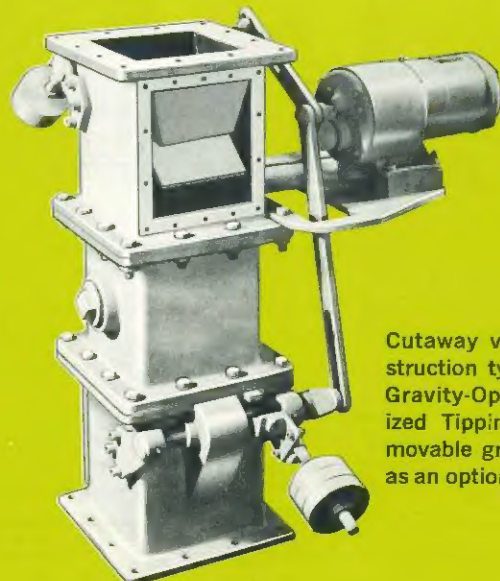
Type R-1 Motorized Tipping Valve with body extension to provide added capacity between upper and lower seals.



SPECIAL FLAPS AND SEATS AVAILABLE FOR USE WITH HIGHLY ABRASIVE DUST.

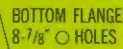


Cutaway view showing double-flap internal construction typical of both the Gravity-Operated and Motorized Tipping Valves.

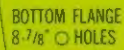


Cutaway view showing construction typical of both the Gravity-Operated and Motorized Tipping Valves with removable grid panel available as an option for the 10" Valve.

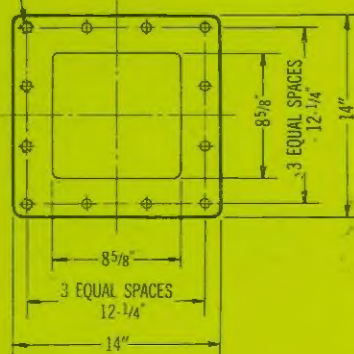
Tipping Valve



		WEIGHT LBS.	CAPACITY CU. FT./ HOUR		
			@ 2 RPM	@ 4 RPM	@ 6 RPM
STANDARD		270	9	18	27
WITH BODY EXTENSION	6"	305	23	46	69
	12"	315	31	62	93
	18"	325	39	78	117
	24"	335	47	94	141



		WEIGHT LBS.	CAPACITY CU. FT./ HOUR		
			@ 2 RPM	@ 4 RPM	@ 6 RPM
STANDARD		320	19	38	57
WITH BODY EXTENSION	6"	368	37	74	111
	12"	380	56	112	168
	18"	392	75	150	225
	24"	404	94	188	282



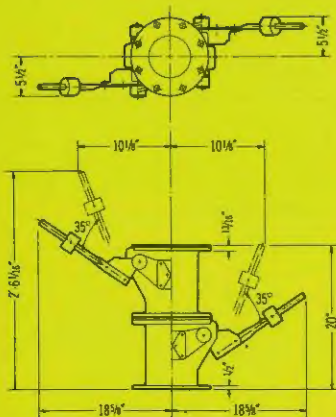
		WEIGHT LBS.	CAPACITY CU. FT./ HOUR		
			@ 2 RPM	@ 4 RPM	@ 6 RPM
STANDARD		380	39	78	117
WITH BODY EXTENSION	6"	453	93	186	279
	12"	465	111	222	333
	18"	487	130	260	390
	24"	500	148	296	444

GRAVITY-OPERATED TIPPING DUST VALVES

THE GRAVITY-OPERATED TIPPING VALVE is ideal for sealing dust collector hoppers operating under negative pressure (0-6" VWC) when handling dry free-flowing material. The air lock principle is achieved in this valve by the use of two "flap" closures that operate alternately, permitting the collected material to pass out of the hopper without pressure losses. The rugged cast and machined construction and the unique hinged design of the valve plate attachment, assure a perfect seal. Neither mechanical abuse nor heat distortion (even at temperatures as high as 750°F.) can affect sealing efficiency. The valve plates operate on outboard, self-aligning dust-sealed ball bearings mounted on true turned and polished shafts. This combination assures maximum freedom of movement under all operating conditions. The valve plate counterweights are easily adjustable to provide optimum operating frequency for each individual installation.

Illustrated are Gravity-Operated Tipping Valves. Type R-1 Motorized Tipping Valves are available in the same range of sizes.

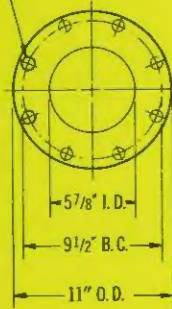
6"



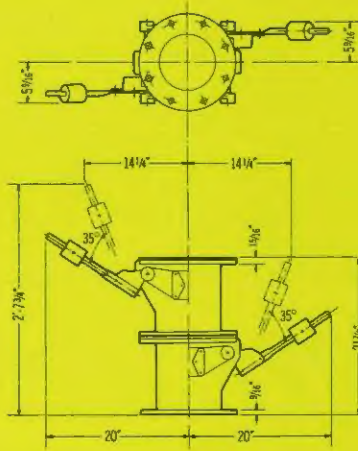
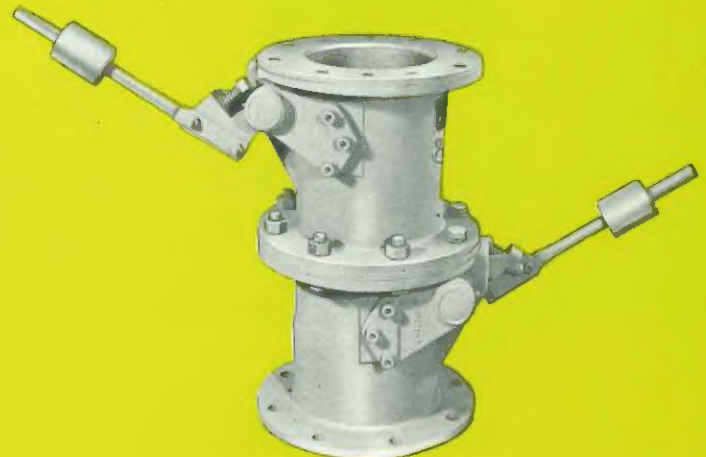
Wt. 100 Lbs.

TOP FLANGE
6-7/8" O HOLES &
2-3/4" O TAPPED HOLES

BOTTOM FLANGE
8-7/8" O HOLES



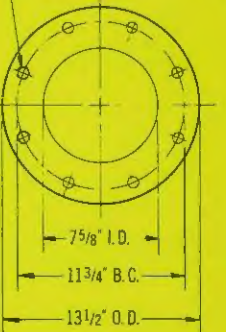
8"



Wt. 150 Lbs.

TOP FLANGE
6-7/8" O HOLES &
2-3/4" O TAPPED HOLES

BOTTOM FLANGE
8-7/8" O HOLES

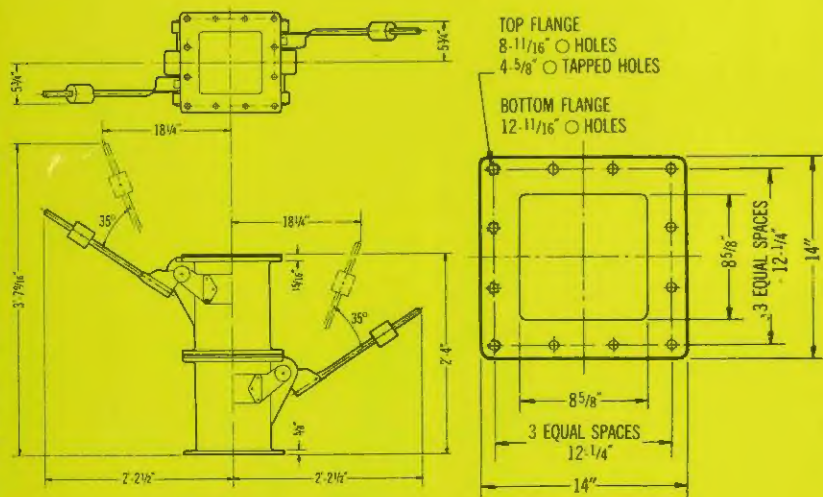
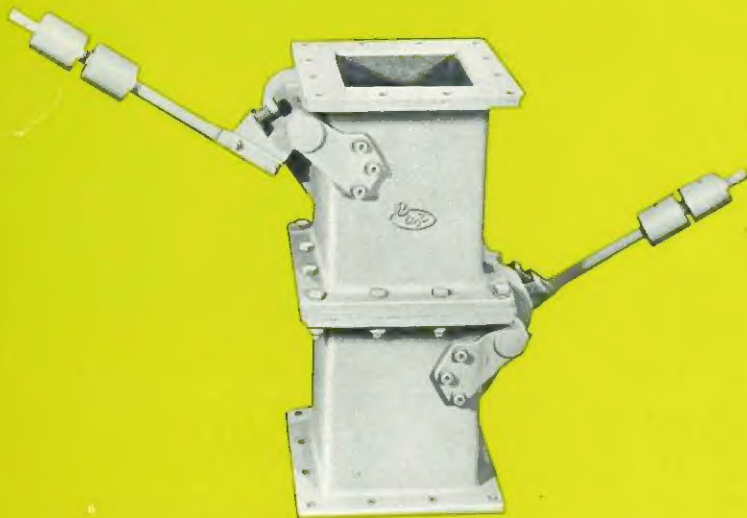


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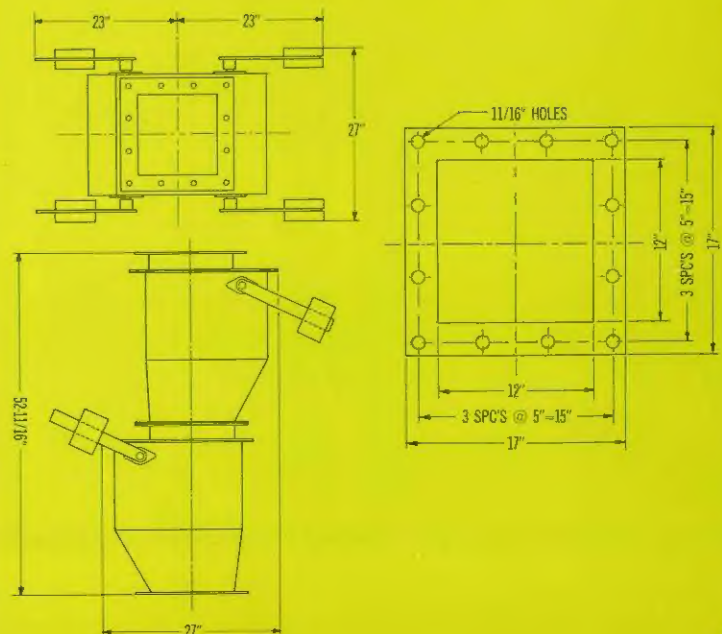
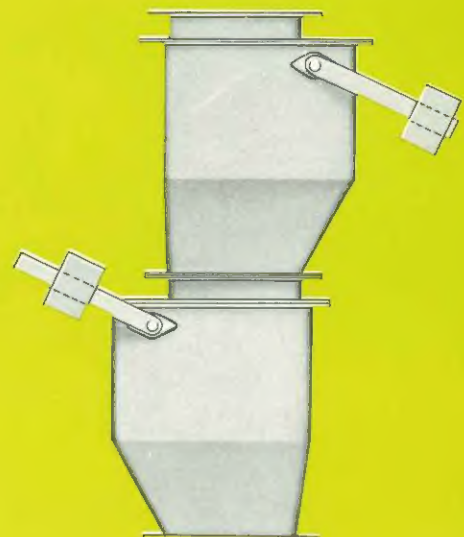
GROUP 170

10"



Wt. 210 Lbs.

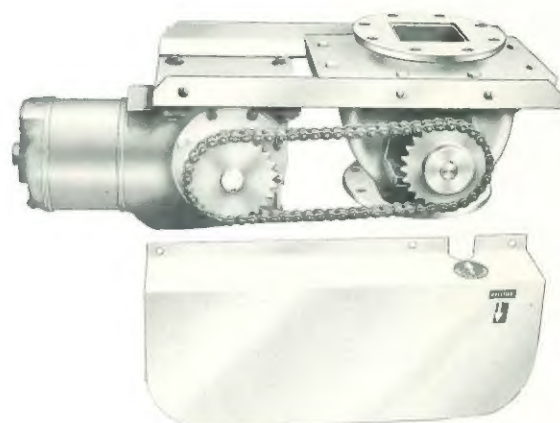
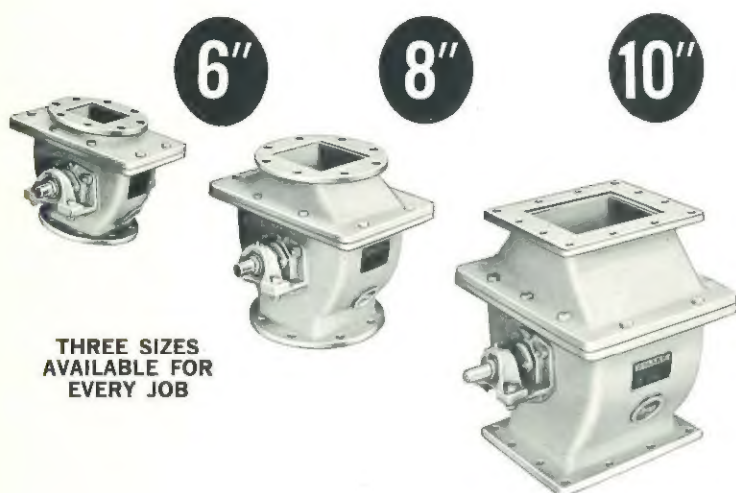
12"



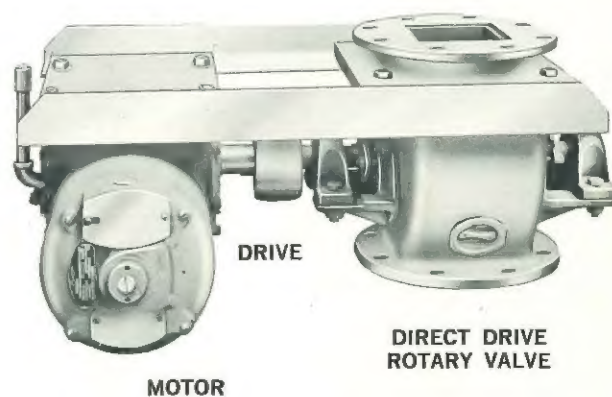
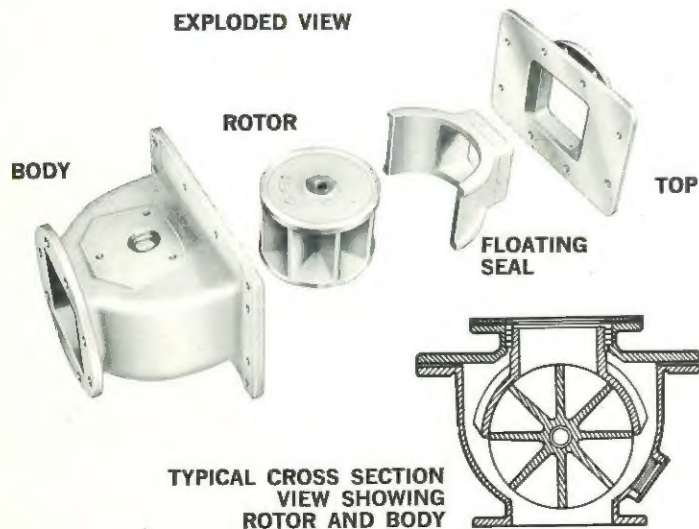
FLOATING SEAL AIRLOCKS

Rotary Valves using the "Revolving Door" principle have long served as dust valves and dust feed regulators. In conventional valves of this type the seal is obtained by soft rubber or plastic wipers attached to the rotating vanes that form the pockets. These function well when the dust is at or slightly above ambient temperature and when the dust is not too abrasive.

However, many installations must function at elevated temperatures and/or with abrasive materials. The Floating Seal Valve has been applied successfully to this service for many years. Soft wiper materials are replaced by a carefully machined cast iron "Floating Seal" of controlled hardness that permits operation at temperatures as high as 750°F. A perfect metal-to-metal seal is continuously maintained, for, as the cast iron seal slowly wears, its weight keeps it in intimate contact with the rotor.



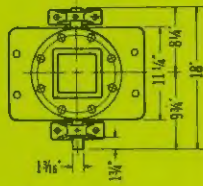
CHAIN DRIVE ROTARY VALVE



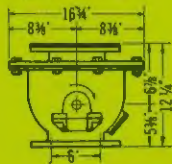
For applications handling dust at 300°F. or less. All the advantages of the floating seal valve are also available with flanged bearings at lower cost.

VALVE

6"

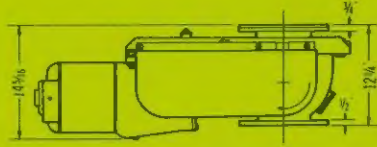
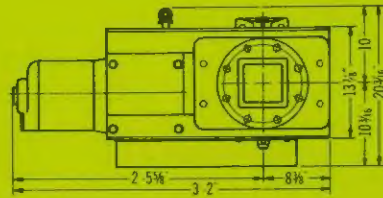


Capacity
48 Cu. Ft./Hr. @ 11 RPM
83 Cu. Ft./Hr. @ 19 RPM



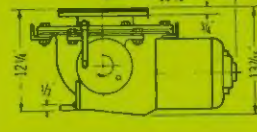
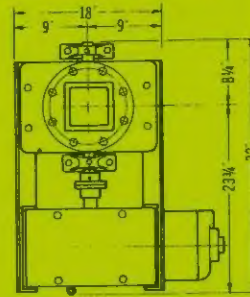
Wt. 230 Lbs.

CHAIN DRIVE



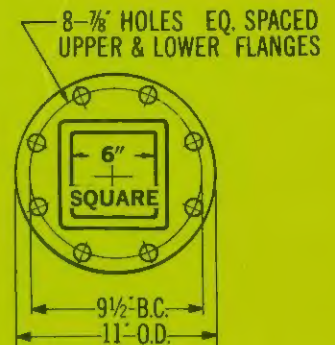
Wt. 420 Lbs.

DIRECT DRIVE

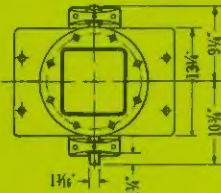


Wt. 395 Lbs.

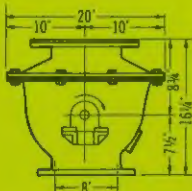
FLANGE TEMPLATE



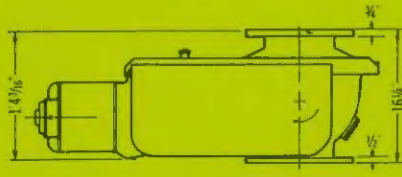
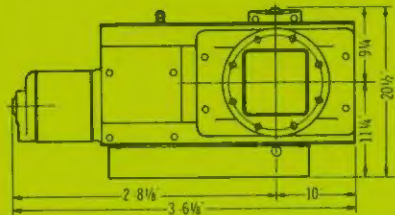
8"



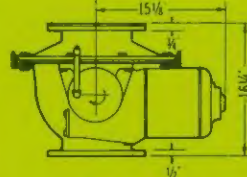
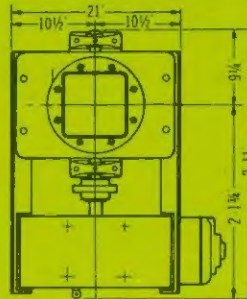
Capacity
150 Cu. Ft./Hr. @ 11 RPM
260 Cu. Ft./Hr. @ 19 RPM



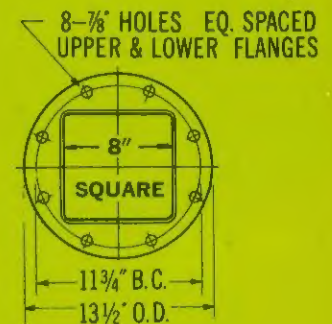
Wt. 275 Lbs.



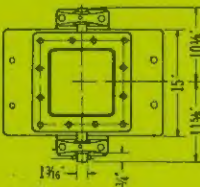
Wt. 520 Lbs.



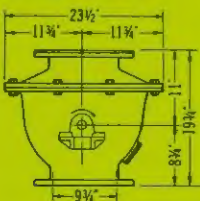
Wt. 490 Lbs.



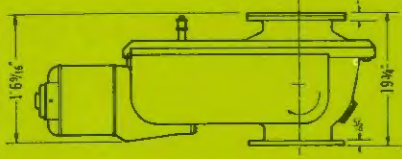
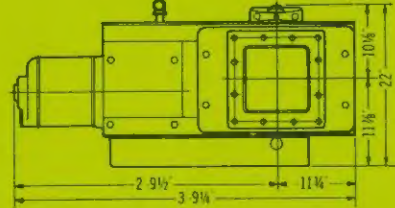
10"



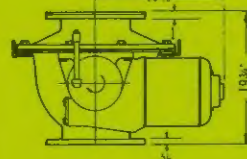
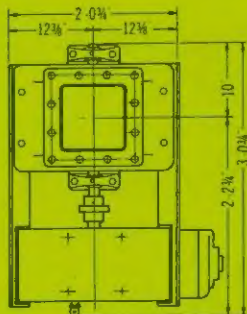
Capacity
312 Cu. Ft./Hr. @ 11 RPM
540 Cu. Ft./Hr. @ 19 RPM



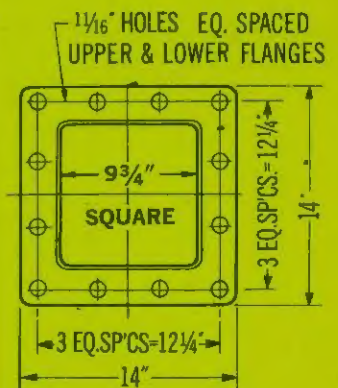
Wt. 365 Lbs.



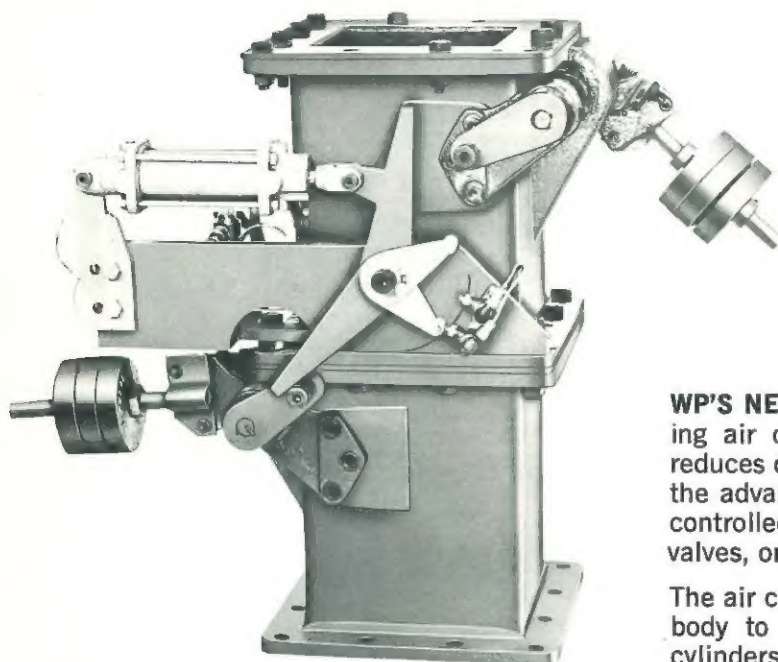
Wt. 655 Lbs.



Wt. 615 Lbs.



AIR-OPERATED TIPPING DUST VALVE



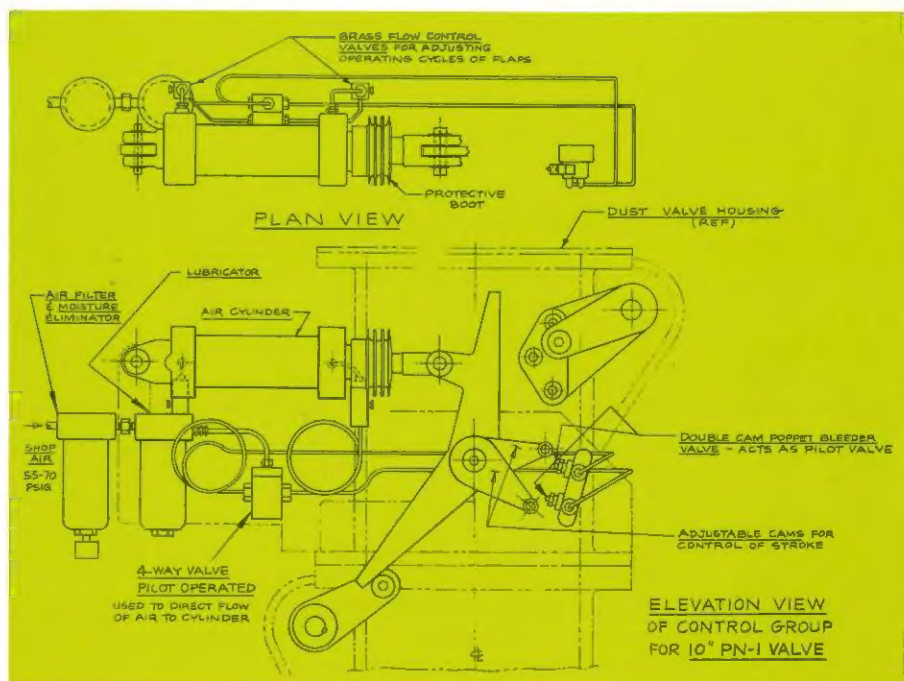
NEW

WP'S NEW PN-1 VALVE utilizes only one double acting air cylinder to activate both valve flaps. This reduces cost and improves reliability. The system has the advantage of being completely air operated and controlled. There are no electrical controls, solenoid valves, or timers in the system.

The air cylinder is mounted well away from the valve body to minimize heat usually transmitted to the cylinders on competing valves.

THE NEW PN-1 FEATURES INCLUDE:

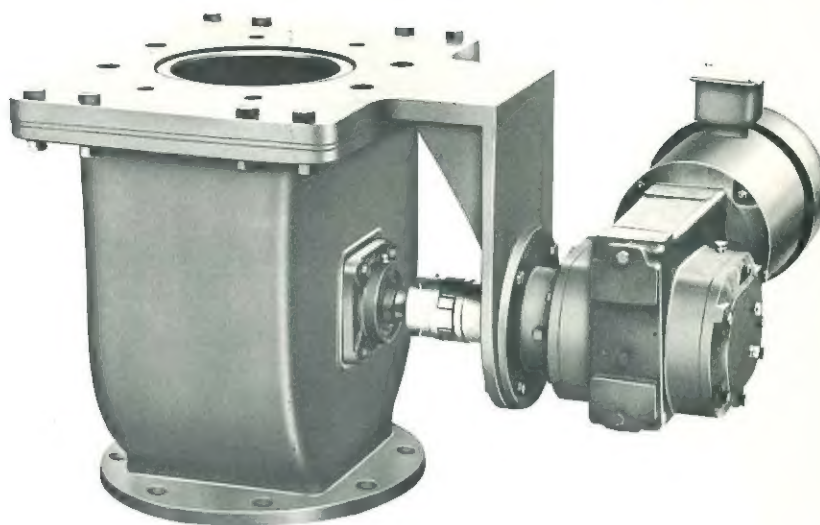
- Free flushing
- Positive timed cycle
- Gravity return of flaps
- Hi-temp and abrasive options
- Outboard bearings
- Self-lubricated linkage.
- Positive pressure installations to 5" VWC
- Negative pressure installations to 40" VWC
- Temperature ranges to 750° F
- Supply air pressures 45 psig minimum
- Modest air volume of .234 ACFM per cycle



		WEIGHT LBS.	6" CAPACITY CU. FT./HR.				WEIGHT LBS.	8" CAPACITY CU. FT./HR.				WEIGHT LBS.	10" CAPACITY CU. FT./HR.			
			2 cyc.	4 cyc.	6 cyc.	7 cyc.		2 cyc.	4 cyc.	6 cyc.	7 cyc.		2 cyc.	4 cyc.	6 cyc.	7 cyc.
STANDARD		170	9	18	27	31	215	19	38	57	66	280	39	78	117	136
WITH BODY EXTEN- SIONS	6"	205	23	46	69	80	263	37	74	111	129	353	93	186	279	325
	12"	215	31	62	93	108	275	56	112	168	196	365	111	222	333	388
	18"	225	39	78	117	136	287	75	150	225	262	387	130	260	390	455
	24"	235	47	94	141	164	299	94	188	282	329	400	148	296	444	518

MEDIUM-DUTY FLOATING SEAL VALVE

NEW

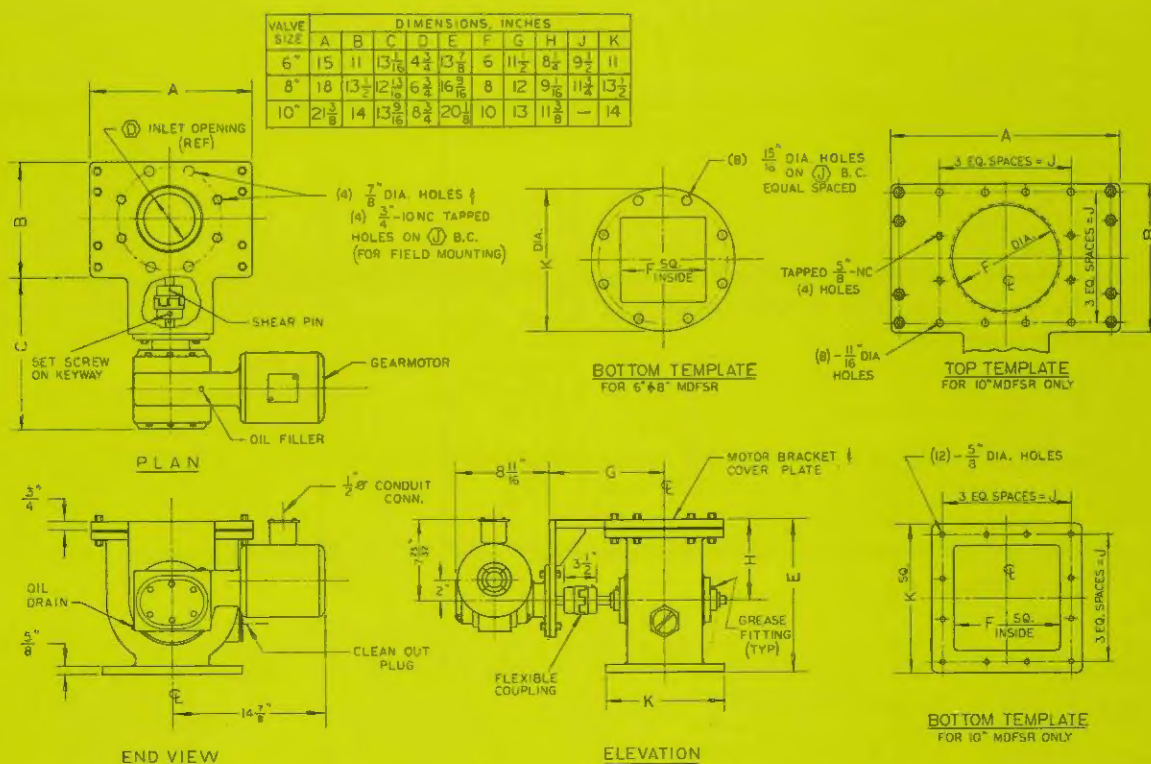


WESTERN PRECIPITATION'S NEW "MD" FLOATING SEAL AIR LOCK slashes prices 30 percent! The high durability of the heavy duty "HD" Air Lock are not sacrificed.

THE NEW COST SAVING FEATURES INCLUDE:

- Flange mounted bearings
- Bronze spider drive coupling
- Integral motor mount and seal retainer
- Unitized cast iron body
- Machined cast iron floating seal to insure durability
- Applications to dust temperatures of 300° F

		CAPACITY CU. FT./HR.		
		6"	8"	10"
MDFS	14 RPM	61	191	397
	20 RPM	87	272	566
	25 RPM	109	340	710



APPLICATIONS WP DUST VALVES

	TIPPING VALVE		FLOATING SEAL		SLIDE VALVE
	MOTORIZED (R1)	GRAVITY OPERATED	OUTBOARD BEARING	FLANGED BEARING	
POWER PLANTS					
CYCLONIC DUST COLLECTORS					
Stoker fired boilers — ash reinjection	X		X		
Boilers with continuous ash removal	X		X		
Boilers where flyash is sticky	X				
Boilers with periodic ash removal					X
Dust and Coal Handling Systems	X	X	X	X	X
CEMENT PLANTS					
CYCLONIC DUST COLLECTORS					
Rock dryers, free flowing dust, under 6" negative pressure		X			
, sticky dust, over 6" negative pressure	X				
Lime kilns	X				
Clinker coolers		X			
Discharge Hoppers on Kilns and Housings	X with body extension				
ROCK PRODUCTS (Other than Cement)					
DUST COLLECTORS					
Gypsum calcination	X			X	
Rock dryers, kilns, general cleanup	X	X			
Lightweight aggregates	X	X	X		
Screens, crushers, material handling	X	X		X	X
STEEL PLANTS					
Sintering strand hoppers	X				
Sintering machine discharge end	X				
Sintering machine dust collectors	X				
Open hearth furnaces, precipitators	X				
Miscellaneous cleanup	X	X	X	X	X
IRON AND STEEL FOUNDRIES					
Sand shakeout and preparation		X		X	X
Cyclone collectors		X		X	X
Pulseflo filters				X	X
General cleanup		X		X	X
NON FERROUS METALLURGICAL OPERATIONS					
Sintering machine hoppers	X with body extension				
Sintering machine dust collectors	X	X	X		X
DUST COLLECTORS					
Alumina kilns	X	X			
Dryers	X	X		X	X
Crushing, screening, material handling		X		X	X
MINING AND MILLING					
DUST COLLECTORS					
Kilns	X	X	X		
Dryers	X	X	X	X	
Crushers, screens, material handling		X		X	X
General cleanup		X		X	X
Hoppers and Chutes				X	X

AND AIRLOCKS

	TIPPING VALVE		FLOATING SEAL		SLIDE VALVE
	MOTORIZED (R1)	GRAVITY OPERATED	OUTBOARD BEARING	FLANGED BEARING	
ASPHALT, SAND AND GRAVEL					
Cyclone collectors		X	X	X	X
Pulseflo filters				X	X
Crushing, screens, material handling		X		X	X
Hoppers and chutes				X	X
PULP AND PAPER					
Cyclonic collectors	X	X	X	X	X
Pulseflo filter				X	X
Kilns — cyclonic collectors	X				
CHEMICAL INDUSTRY					
Spray dryers — hoppers and collectors			X	X	
Cyclone collectors					
Dryers	X	X	X	X	
Coolers		X		X	
Crushing, screening, material handling	X	X		X	X
Pulseflo filters				X	X
FERTILIZERS					
Cyclone collectors					
Dryers		X		X	X
Coolers		X		X	X
Screens, crushing, material handling		X		X	X
Pulseflo filters				X	X
Hoppers and chutes				X	X
RUBBER AND PLASTIC PRODUCTS					
Cyclone collectors		X		X	X
Pulseflo filters				X	X
Hoppers and chutes				X	X
FOOD PROCESSING					
Cyclone collectors		X		X	X
Pulseflo filters				X	X
Hoppers and chutes				X	X
CLAY, GLASS, CERAMICS					
Cyclone collectors	X	X	X	X	X
Pulseflo filters				X	X
Screening, crushing, material handling	X	X		X	X
Hoppers and chutes				X	X



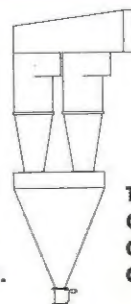
**HOPPER DISCHARGE.
METERING &
FEED CONTROL
AIRLOCK.**



**ROTARY AIRLOCK
FOR
CYCLONE
COLLECTOR.**

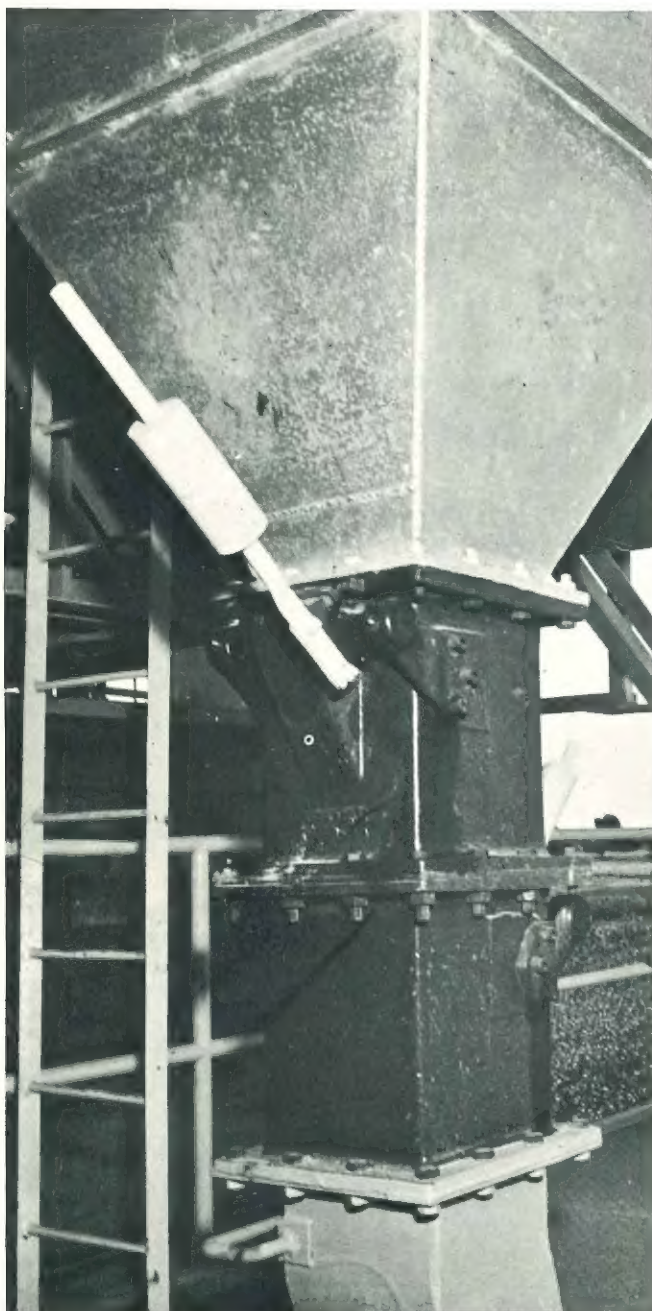


**SLIDE VALVE FOR
INTERMITTENT
DISCHARGE
FROM BAG FILTER.**

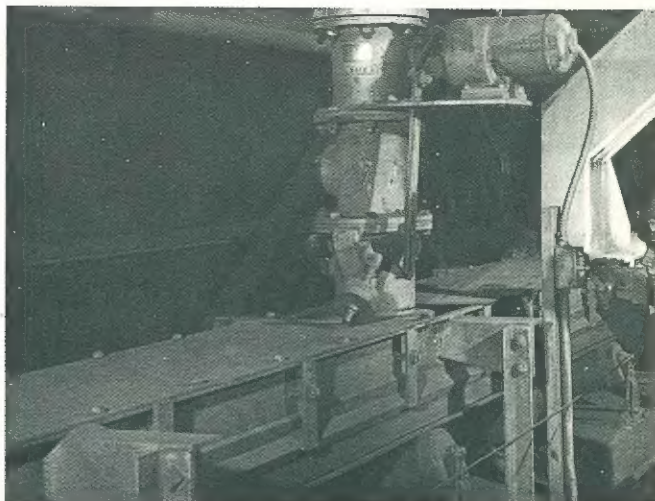


**TIPPING VALVES
ON
QUADRUPLE
CYCLONE.**

OUTSTANDING INSTALLATIONS



GRAVITY OPERATED TIPPING VALVE AT CEMENT PLANT



MOTORIZED VALVE AT STEEL PLANT



MOTORIZED VALVE WITH EXTENSION



Printed in U.S.A. 7/71 5M

WESTERN PRECIPITATION DIVISION/JOY MANUFACTURING COMPANY

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ENGLAND Capitol House, Church Street, Epsom, Surrey, Epsom 27661 / AUSTRALIA Joy Manufacturing Co. Pty., 78 Kent Road, Mascot, N.S.W., 67-5161 / SOUTH AFRICA Joy Manufacturing Co., (Africa) (Pty.), Ltd. 1 Steeldale, Johannesburg, 869-5241 / FRANCE Precipco De France, 30 Rue Chabrol, Paris X, France, 824-7560
MEXICO 5, D.F., Manufacturera Joy De Mexico, S.A. De C.V., Paseo De La Reforma No. 243 - 5°, 5-33-23-85